installation

60/60 twin flue system kit

(V3 Flue System)

Your Ideal installation guide

When replacing any part on this appliance, use only spare parts that you can be assured conform to the safety and performance specification that we require. Do not use reconditioned or copy parts that have not been clearly authorised by Ideal Boilers.

Ideal BOILERS

The High Efficiency Pioneers

INTRODUCTION

This kit is suitable only for the domestic gas boilers listed below and for horizontal flue applications only :

Elise C24 ..... G.C. No. 47-348-49
Elise C30 ..... G.C. No. 47-348-50
Elise C35 ..... G.C. No. 47-348-51

Elise H15 ..... G.C. No. 41-399-97
Elise H24 ..... G.C. No. 41-399-98

Esprit HE24 ..... G.C. No. 47-348-46
Esprit HE30 ..... G.C. No. 47-348-47
Esprit HE35 ..... G.C. No. 47-348-48

evo HE C22/24 ..... G.C. No. 47-348-32
evo HE C22/30 ..... G.C. No. 47-348-33
evo HE C22/35 ..... G.C. No. 47-348-34

evo HE H12 ..... G.C. No. 41-397-96
evo HE H16 ..... G.C. No. 41-397-86
evo HE H 19 ..... G.C. No. 41-397-93
evo HE H22 ..... G.C. No. 41-397-94

icos HE12 ..... G.C. No. 41-397-95
icos HE15 ..... G.C. No. 41-397-83
icos HE18 ..... G.C. No. 41-397-84
icos HE24 ..... G.C. No. 41-397-85

icos system HE15 ..... G.C. No. 41-421-99
icos system HE24 ..... G.C. No. 41-397-82

isar HE24 ..... G.C. No. 47-348-31
isar HE30 ..... G.C. No. 47-348-30
isar HE35 ..... G.C. No. 47-348-29

isar HE24 + Programmer ..... G.C. No. 47-348-43
isar HE30 + Programmer ..... G.C. No. 47-348-44
isar HE35 + Programmer ..... G.C. No. 47-348-45

istor HE260 ..... G.C. No. 41-394-13
istor HE325 ..... G.C. No. 41-394-14

These instructions must be read in conjunction with the Installation and Servicing Instructions supplied with the boiler.

1 DESCRIPTION

This Twin Pipe Flue Kit is suitable for the domestic boilers listed above.

This kit allows greater flexibility when siting a boiler, as much greater distances to outside walls and roofs can be achieved.

The kit connects directly to the top of the boiler, allowing twin 60 dia. flue outlet and air inlet pipes to be used.

Various options of horizontal fluing are possible and include horizontal flue kits and concentric and with independent horizontal terminals.

Fluing lengths up to 18m maximum combined flue and air pipes are permissible, although allowances must be made when elbows are used.

IMPORTANT

All twin pipe flue installations **MUST** be fitted wtih the condensate drain trap supplied.

Please see frames 12 & 13.

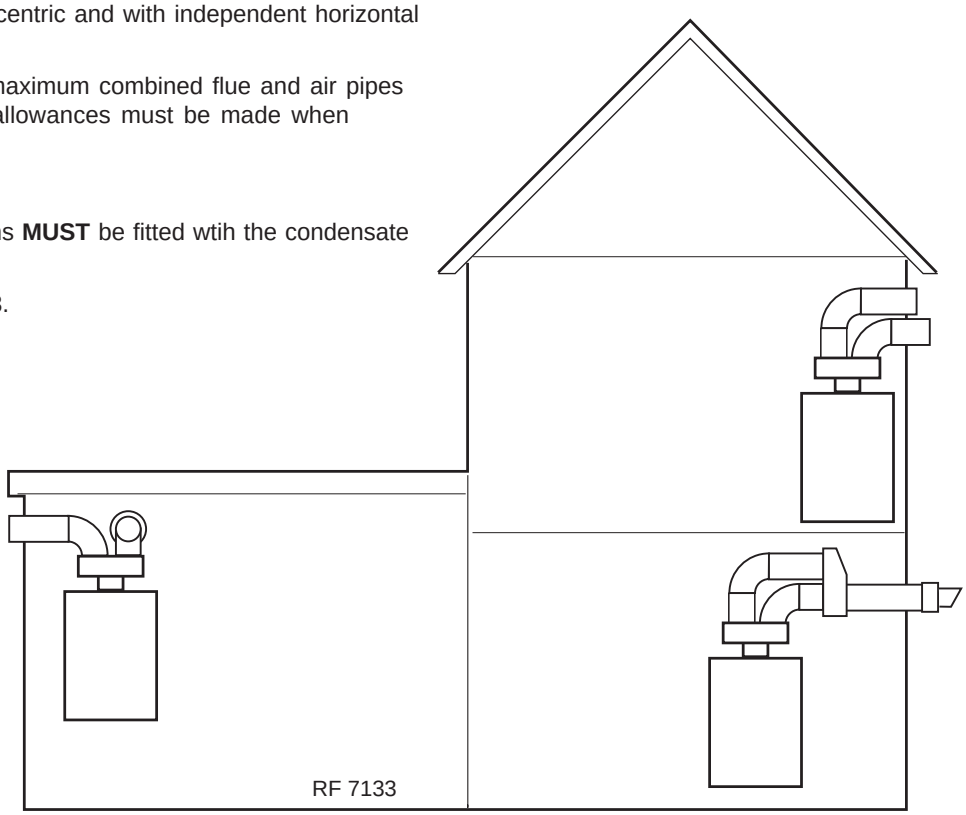
WEATHER PROOFING

Where the flue passes through the roof line an adequate seal must be made. This is achieved by using either:

- Flat roof weather collar

or

- Universal weather collar



The Twin Pipe Flue Kit and all associated kits and terminals **must be installed in accordance with BS.5440 pt. 1 & 2:2000** flues for gas appliances of rated input not exceeding 70kW.

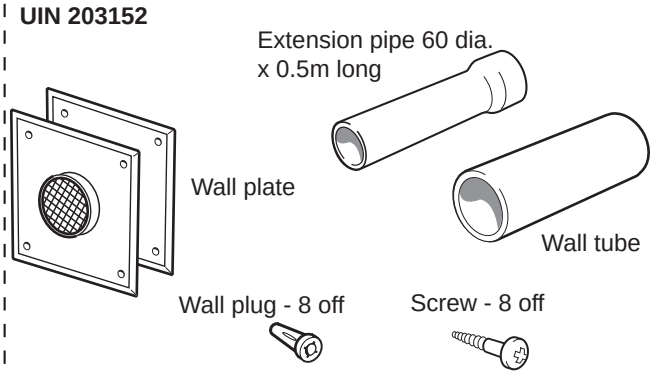
CAUTION: To avoid the possibility of injury during the use or cleaning of this appliance care should be taken when handling edges of sheet steel components

2 UNPACKING

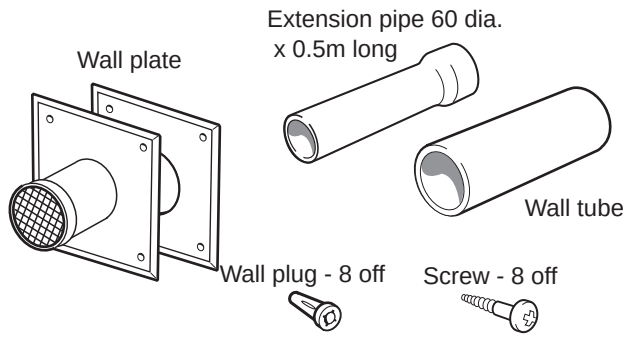
Unpack the kits and check the contents.

Only use water as a lubricant during assembly. Do not use mineral based oils.

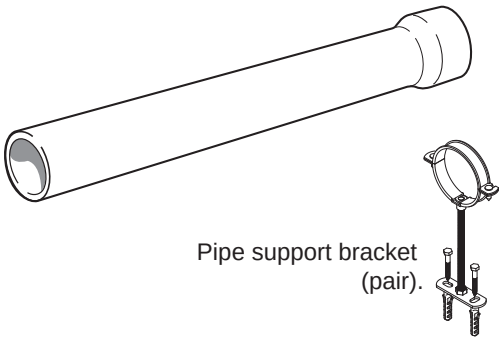
Horizontal air terminal 60mm dia.
UIN 203152



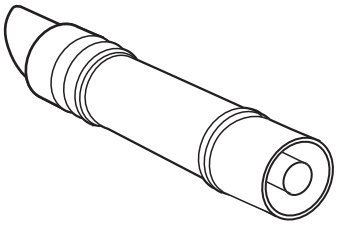
Horizontal flue terminal 60mm dia.
UIN 203150



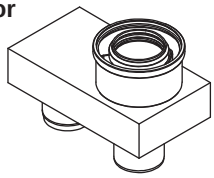
Flue Extension 1m - 2off
UIN 203143



Horizontal flue terminal
UIN 203128

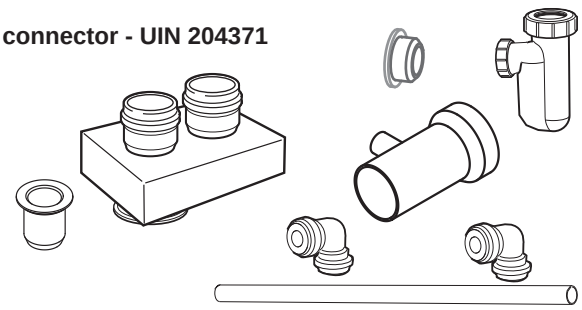


Horizontal twin flue adaptor
UIN 203133

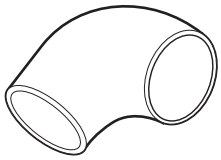


Twin pipe flue connector kit

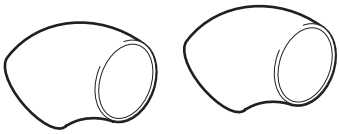
connector - UIN 204371



90^{O} Elbow 60mm dia.
UIN 203139

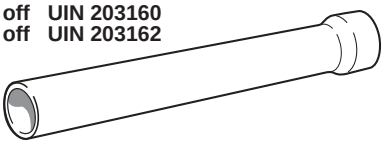


45^{O} Elbow 60mm dia (x2)
UIN 203141



Extension pipes 60mm dia. (flue and air)

0.5m - 1off UIN 203156
2m - 2 off UIN 203158
3m - 3 off UIN 203160
4m - 4 off UIN 203162



Pipe support bracket - 1 off
UIN 175450

Flue slip coupling
UIN 203154

var9421

3 HORIZONTAL TWIN FLUE ASSEMBLY

It is possible to use the twin pipe flue system in various configurations.
Three options are shown. Refer to Frames 6-9.

Note.

1. *Flue pipe runs must be angled between 1.5 °- 3° down towards the boiler to allow for condensate to drain.*
2. *This flue system is not suitable for external installation.*

It is recommended that a support bracket is fitted for every 1 metre of extension pipe used and a bracket should be used at every joint, to ensure pipes are held at the correct angle.

If a slip joint coupling is to be used then a bracket should be used to secure the collar.

A choice of flue extensions of 0.5m, 2m, 3m, and 4 m long can be selected, dependent on the flue system layout, to minimise joints.

The maximum permissible lengths of straight for flue and air pipes is 18m combined depending on the flue/air pipe length combination used.

The graph in Frame 11 shows the relationship between the flue and air pipe length combinations that can be used. The graph must be used for all flue/air length calculations.

Allowances must be made when 90° and 45° bends are used.

A 90° bend is equivalent to 1.4m of straight flue.

A 45° bend is equivalent to 1.25m of straight flue.

Note.
The first 90° bend in the flue and air pipes is NOT to be included in flue length calculations as the 18m combined lengths include the two 90° bends exiting the twin flue connector.

PIPE LENGTH CALCULATION

Example of flue/air length calculation for horizontal system shown in Frame 4.

Step 1
When considering a possible boiler installation position measure and fix one of the pipe lengths.
In this example take the distance of the air pipe to measure 8.3m.

In this example since there are no bends dimension '**Y**' = 8.3m.

Step 2
Refer to the graph in Frame 10. Plot the vertical line on the air axis corresponding to 8.3m. as shown.

Where the vertical line intersects the bold line on the graph, read off the corresponding ***maximum allowable*** flue length. In this example the maximum straight flue pipe length is 8.3m.

Step 3
Calculate the bend allowance, which must be deducted from the flue length.

In this example it is 2 x 90° bends:	=	2 x 1.4m	= 2.8m
Therefore maximum length of flue pipe '**X**'	=	8.3 - 2.8m	= 5.5m

Alternatively the flue pipe length can be fixed first and the maximum allowable air pipe length calculated.

4 HORIZONTAL TERMINAL POSITIONING (wall mounted boilers)

Flue pipe runs must be angled between 1.5° - 3° down towards the boiler to allow condensate to drain.

Note.
Where flue and air terminals are adjacent on the same wall they must be seperated by a minimum of 500mm. Refer to Frame 9.

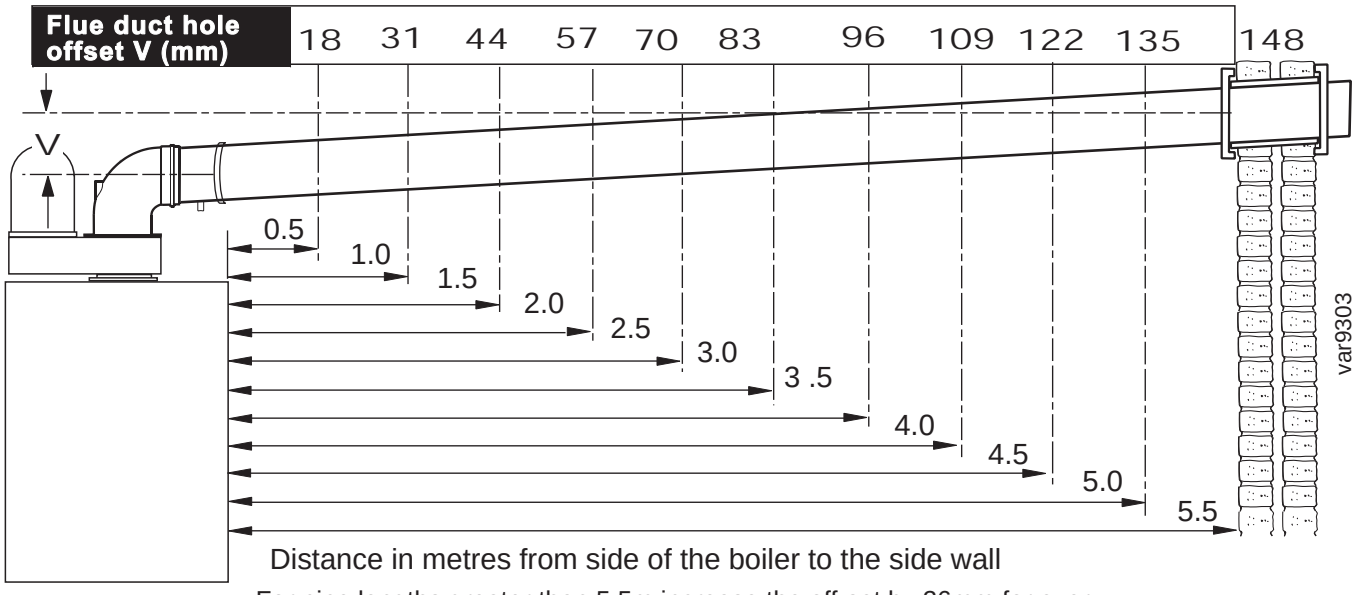
1. Air Pipe
Mark the Air Pipe hole position on the wall by extending a horizontal line from the 90° elbow.

Mark the centre of the hole as well as the circumference (76mm or 3")

2. Flue Pipe
Mark the Flue Pipe hole position on the wall using the dimensions from the diagram below to give 1.5° - 3° inclination.

Mark the centre of the hole as well as the circumference (76mm or 3")

Elise H, Elise C, Esprit HE, evo HE, icos HE, isar HE, icos system HE



Distance in metres from side of the boiler to the side wall

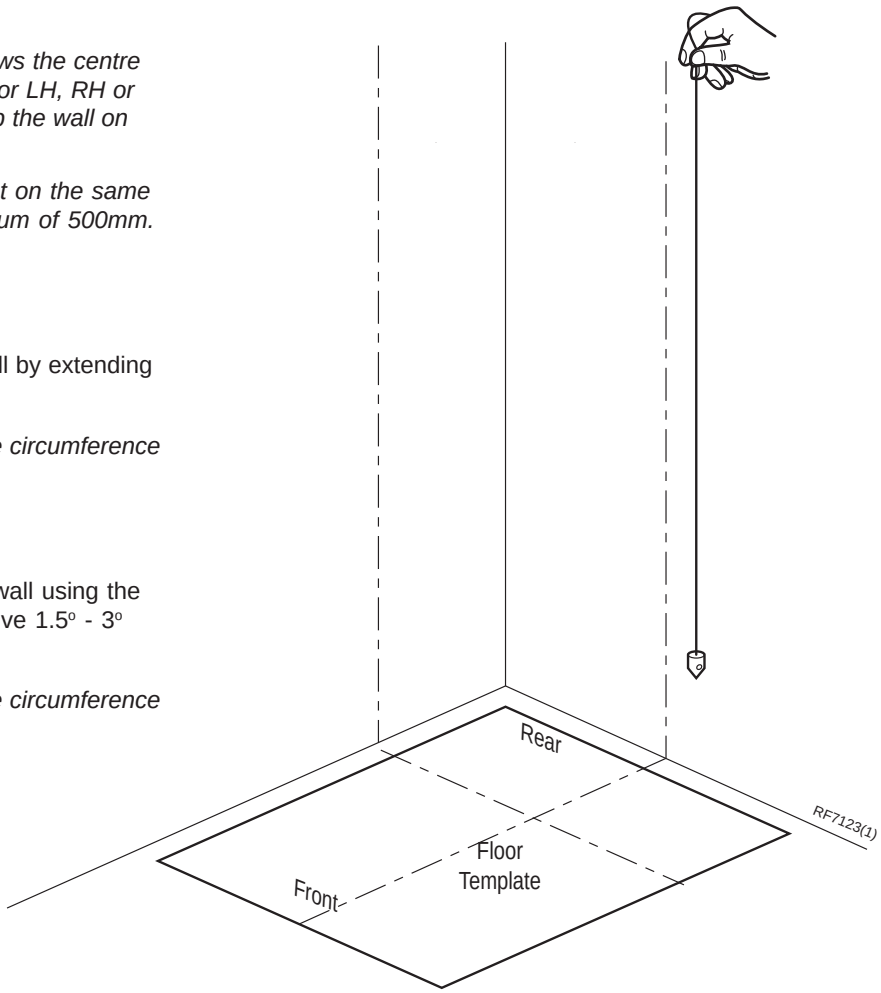
For pipe lengths greater than 5.5m increase the off-set by 26mm for every additional metre to maintain 1.5° - 3° inclination.

5 HORIZONTAL TERMINAL POSITIONING (istor)

Flue pipe runs must be angled between 1.5° - 3° down towards the boiler to allow condensate to drain.

Note.
The floor template for the istor boiler shows the centre line of the flue outlet from the appliance for LH, RH or rear flue outlet. Extend this centre line up the wall on the side the flue outlet is to be fitted.

Where flue and air terminals are adjacent on the same wall they must be separated by a minimum of 500mm. Refer to Frame 9.



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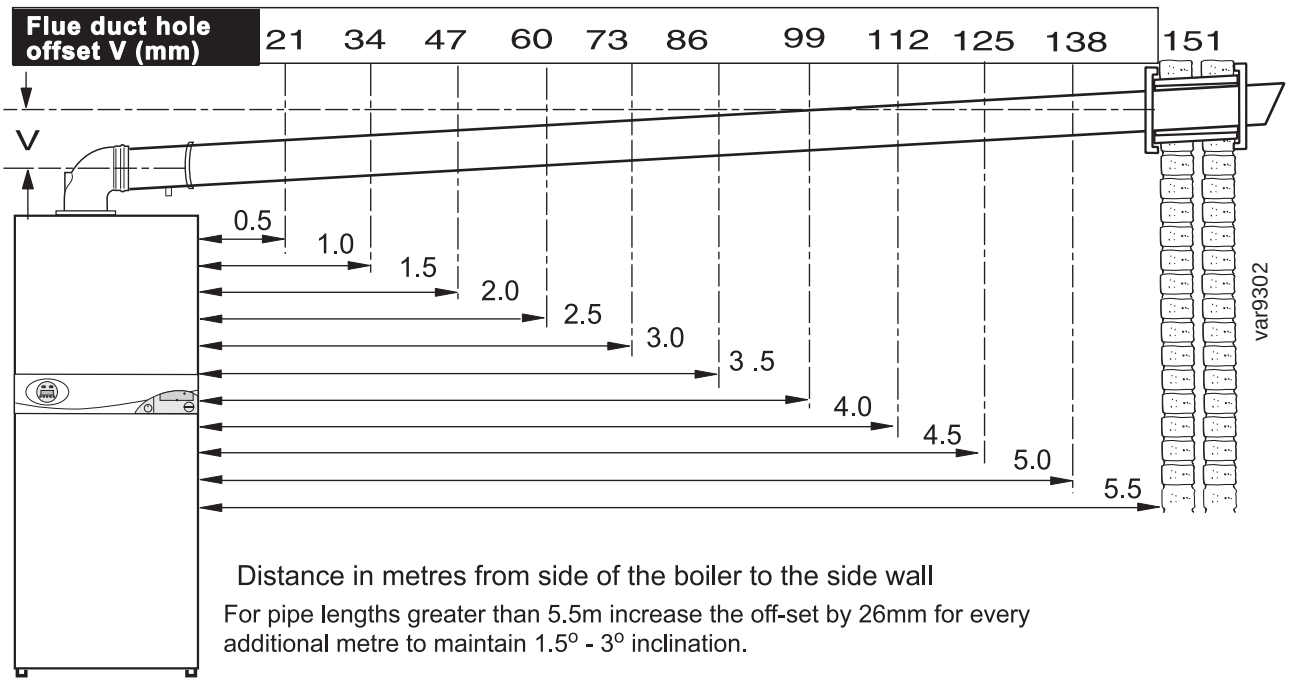
Mark the centre of the hole as well as the circumference (76mm or 3")



Distance in metres from side of the boiler to the side wall

For pipe lengths greater than 5.5m increase the off-set by 26mm for every additional metre to maintain 1.5° - 3° inclination.

6 PREPARING THE WALL

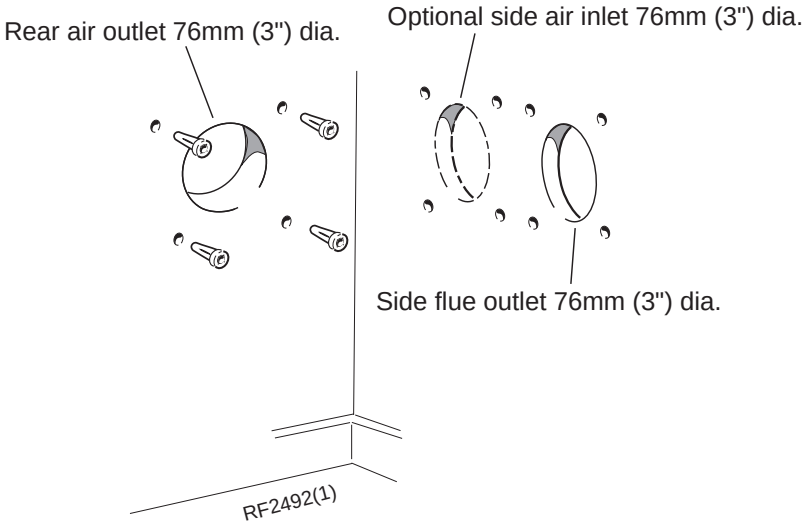
IMPORTANT. Ensure that, during the cutting operation, masonry falling outside of the building does not cause damage or personal injury.

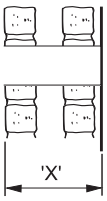
1. Cut the flue (and/or air) hole (preferably with a 76mm (3") core boring tool), ensuring that the hole is square to the wall.
   Both wall faces immediately around the cut hole should be flat.

2. When fitting wall plated to outside walls, drill 4 holes with a 7mm (1/4") masonry drill and insert the plastic plugs provided, for the wall plates.

3. Measure the wall thickness 'X' and cut the wall tube to length as necessary.

4. Fit the wall tube(s) into hole(s) and make good around ends of the wall tube(s).





Section through wall

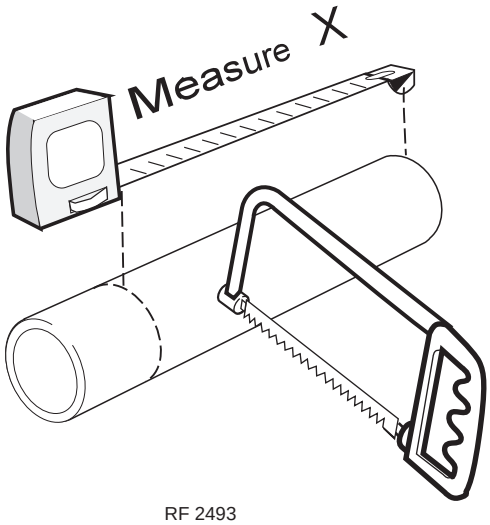
Note.
Check all the hole positions before drilling.

In order to provide fire protection for the plastic flue and air ducts as they pass through partition walls and ceilings a suitable fire break material can be sourced from:

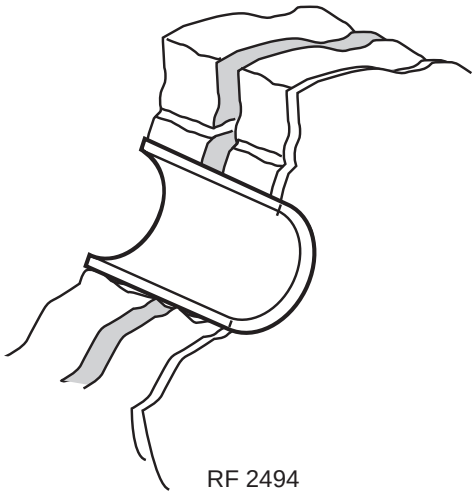
Hunter Plastics Ltd
Nathan Way, London, SE28 0AE
Tel. 020 8855 9851

Product: UNICOLLAR CC01

Available to buy from: Wolseley 'Drain Center' or Grafton 'Buildbase'.



RF 2493

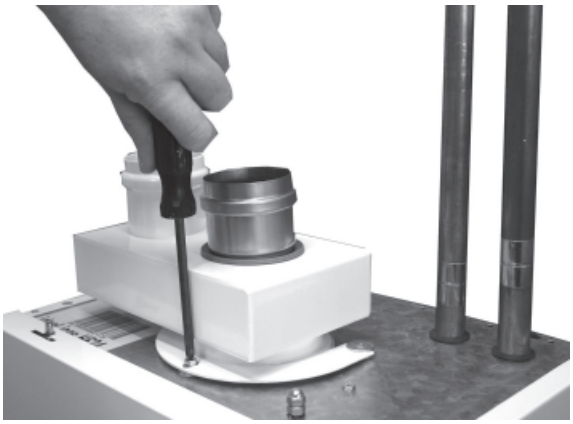


RF 2494

7 TWIN PIPE FLUE CONNECTOR ASSEMBLY

1. Locate aluminium sleeve over flue duct orientating the small flange facing towards the boiler.

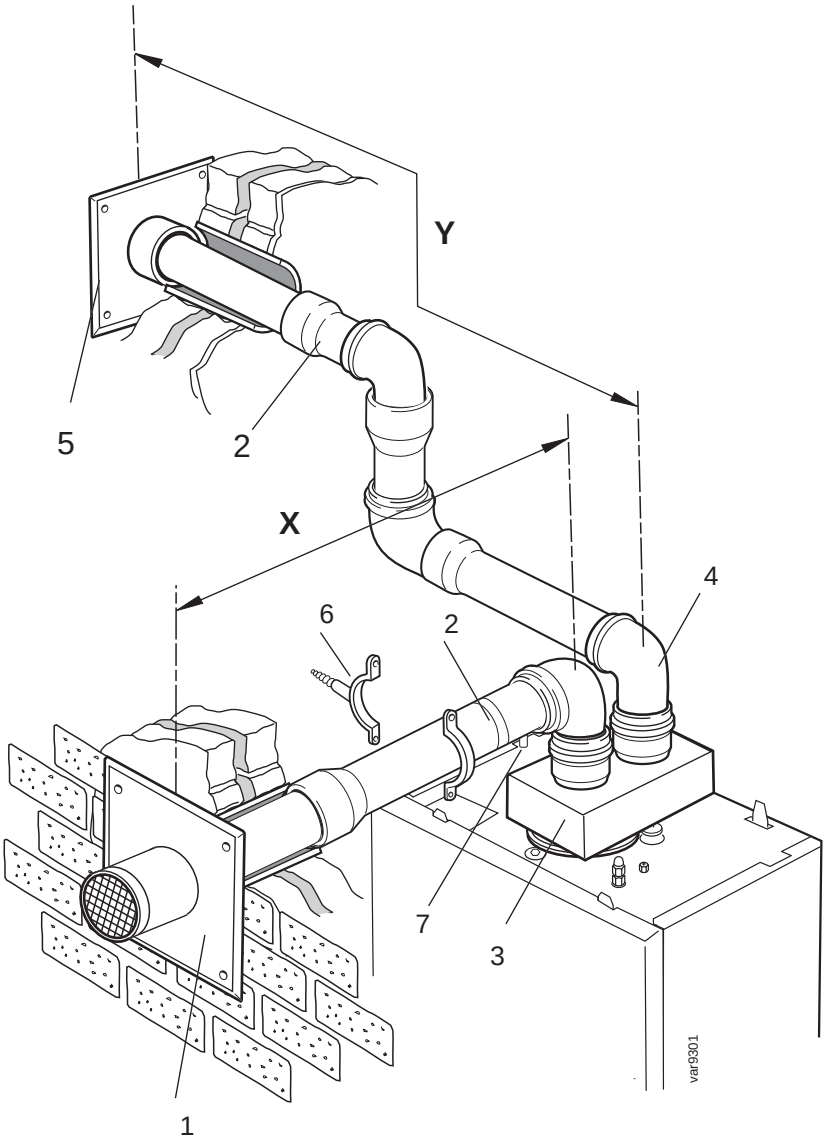
2. Plug connector assembly into boiler flue outlet. Retain assembly using clamp bracket and M5 screw.



8 HORIZONTAL TWIN FLUE ASSEMBLY

Direction and termination on adjacent walls.

Note. *The flue and air ducts MUST NOT terminate on opposite walls.*



Legend

1. Horiz. flue terminal 60mm dia.

2. Flue extension pipe 60mm dia.

3. Twin pipe flue connector 60mm dia.

4. 90° elbow 60mm dia.

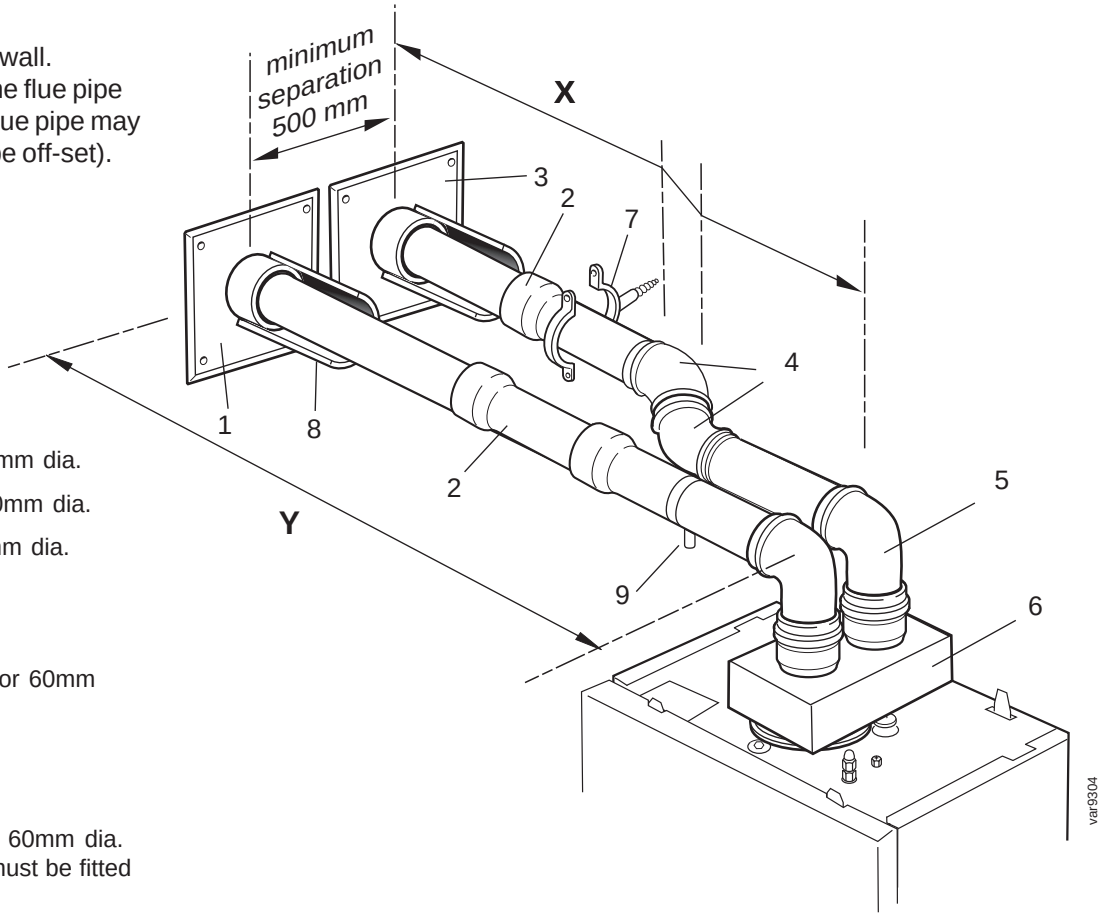
5. Horiz. air terminal 60mm dia.

6. Support bracket.

7. Flue condensate drain 60mm dia. (Note: Outlet of drain must be fitted with trap (not shown).

9 HORIZONTAL TWIN FLUE ASSEMBLY

Parallel runs to common wall.
(This illustration shows the flue pipe off-set. Alternatively the flue pipe may be straight and the air pipe off-set).

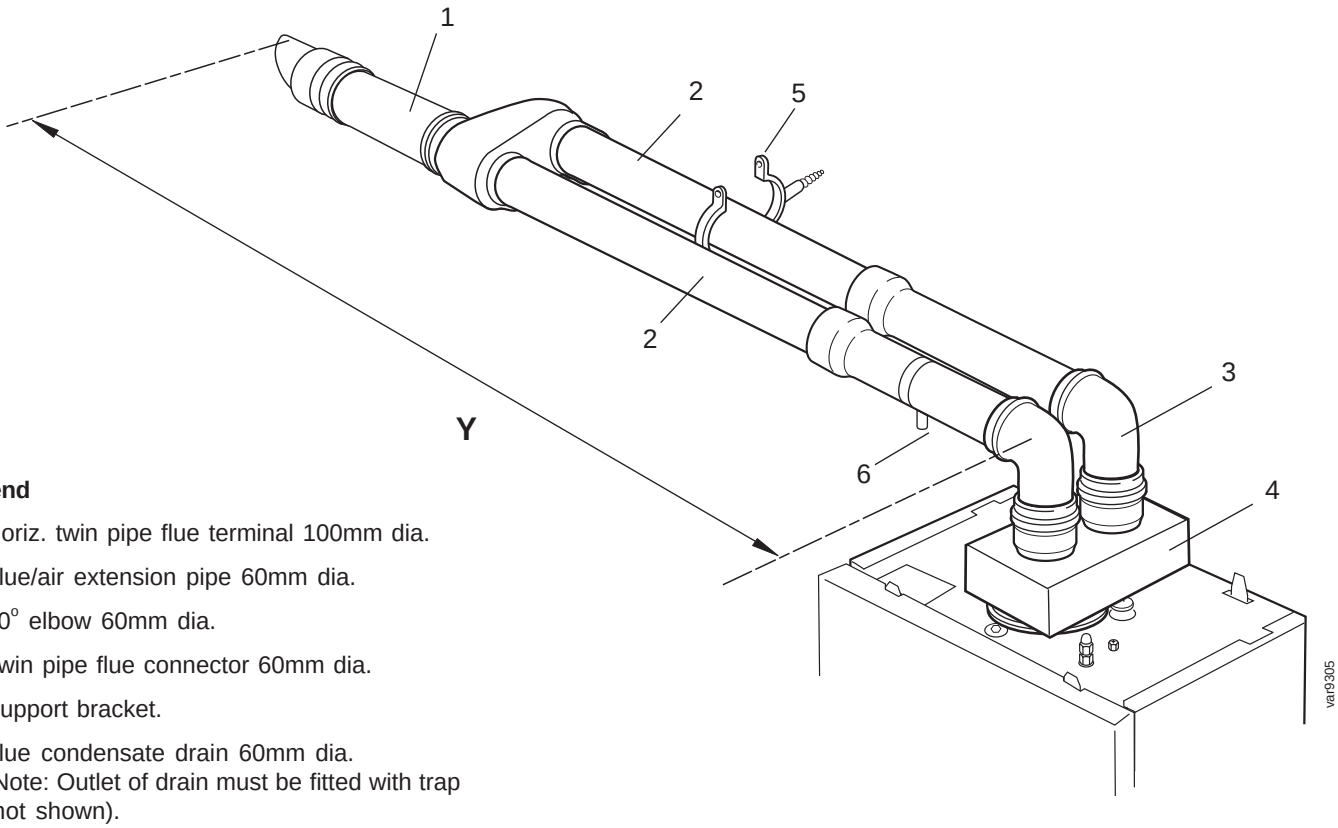


Legend

1. Horiz. flue terminal 60mm dia.
2. Flue extension pipe 60mm dia.
3. Horiz. air terminal 60mm dia.
4. 45° elbow 60mm dia.
5. 90° elbow 60mm dia.
6. Twin pipe flue connector 60mm dia.
7. Support bracket.
8. Wall tube.
9. Flue condensate drain 60mm dia. (Note: Outlet of drain must be fitted with trap (not shown).

10 HORIZONTAL TWIN FLUE ASSEMBLY

Parallel runs to concentric wall outlet

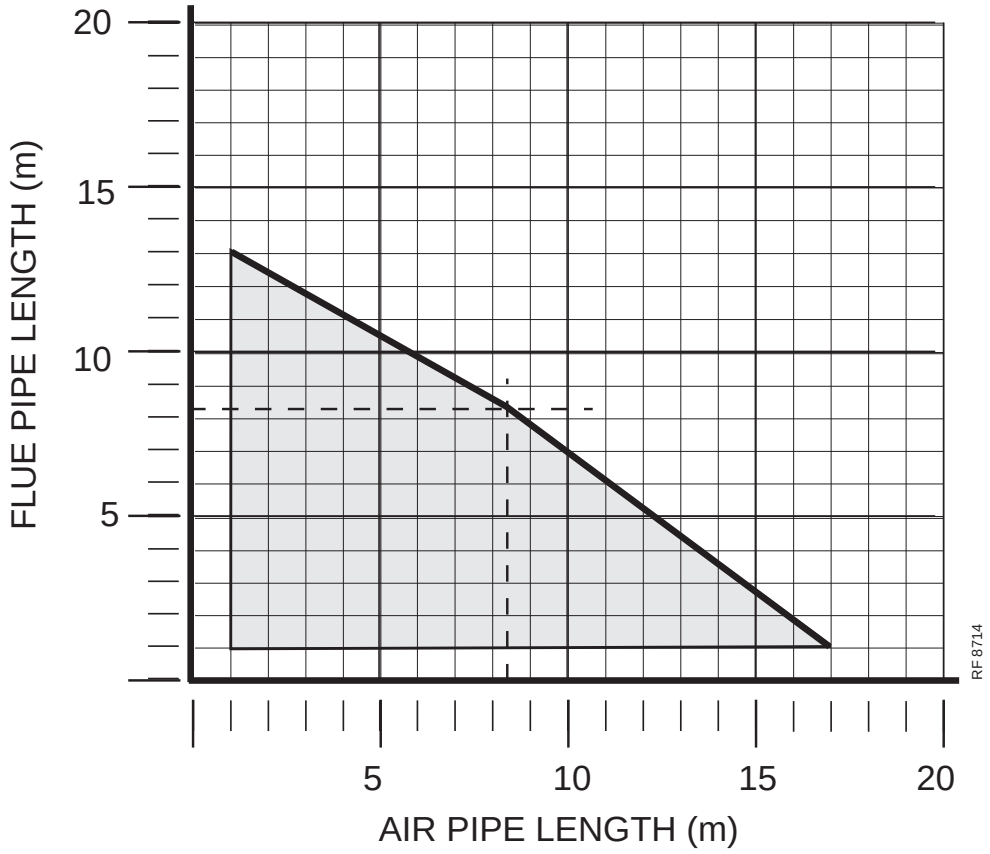


Legend

1. Horiz. twin pipe flue terminal 100mm dia.
2. Flue/air extension pipe 60mm dia.
3. 90° elbow 60mm dia.
4. Twin pipe flue connector 60mm dia.
5. Support bracket.
6. Flue condensate drain 60mm dia. (Note: Outlet of drain must be fitted with trap (not shown).

11 FLUE & AIR PIPE LENGTH COMBINATION GRAPH

Note. Dotted line is example - see Frame 3



IMPORTANT. Flue and air pipe length combinations must be within the grey area.

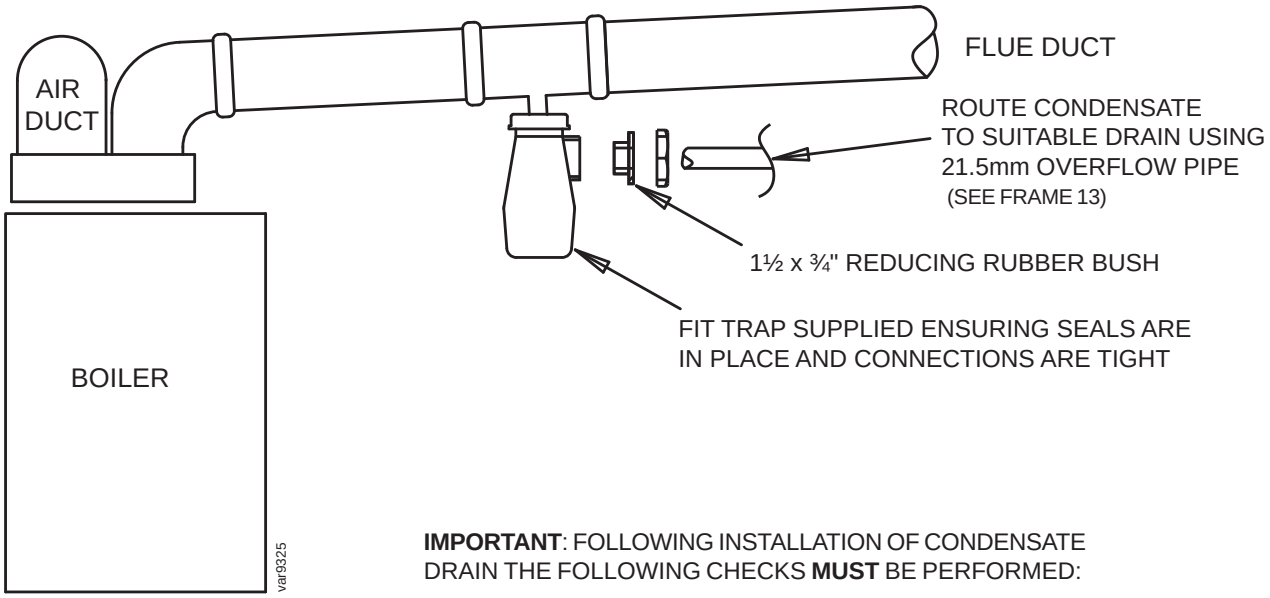
12 FLUE CONDENSATE DRAIN DUCT LOCATION AND INSTALLATION

The flue condensate drain duct incorporates a flue condensate drain point to be located in-line with the flue ductwork as close as practicably possible to the boiler. The condensate drain duct must always be fitted in the horizontal run of the flue duct unless no horizontal runs are used. To ensure correct operation avoid fitting condensate collector immediately after bends and that the condensate drain point is facing downwards.

Important: The drain ducts condensate drain outlet **must** be connected via the trap and connecting fittings supplied to prevent escape of flue products into condensate waste system.

Please refer to accompanying diagrams for guidance.

(a) Horizontal drain duct installation
To be used in all systems where a horizontal run is present.


AIR DUCT
FLUE DUCT
ROUTE CONDENSATE TO SUITABLE DRAIN USING 21.5mm OVERFLOW PIPE (SEE FRAME 13)
1½ x ¾" REDUCING RUBBER BUSH
FIT TRAP SUPPLIED ENSURING SEALS ARE IN PLACE AND CONNECTIONS ARE TIGHT
BOILER
var9325

IMPORTANT: FOLLOWING INSTALLATION OF CONDENSATE DRAIN THE FOLLOWING CHECKS **MUST** BE PERFORMED:

(1.0) CAREFULLY POUR WATER DOWN THE FLUE AND CHECK WATER EFFECTIVELY DRAINS THROUGH THE CONDENSATE COLLECTOR AND TRAP SYSTEM AWAY TO WASTE.

(2.0) ENSURE TRAP IS PRIMED WITH WATER BEFORE FIRING BOILER.

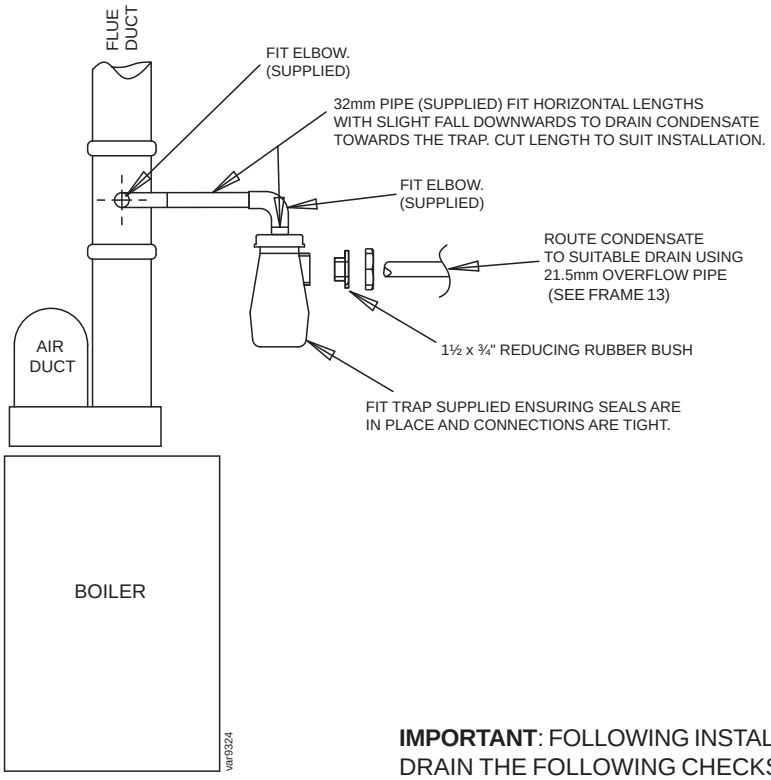
(3.0) ON COMMISSIONING BOILER CAREFULLY CHECK ALL SEALS MADE ARE AIR AND WATER TIGHT WITH NO LEAKAGE.

NOTES:

- ALL EXTERNAL PIPE RUNS **MUST** BE INSULATED.
- ALL CONNECTING PIPEWORK **MUST** BE FULLY SUPPORTED.

12 CONTINUED....

(b) Vertical drain duct installation
ONLY for use on fully vertical (including 45º runs) systems, where NO HORIZONTAL runs are made.


FLUE DUCT
FIT ELBOW. (SUPPLIED)
32mm PIPE (SUPPLIED) FIT HORIZONTAL LENGTHS WITH SLIGHT FALL DOWNWARDS TO DRAIN CONDENSATE TOWARDS THE TRAP. CUT LENGTH TO SUIT INSTALLATION.
FIT ELBOW. (SUPPLIED)
ROUTE CONDENSATE TO SUITABLE DRAIN USING 21.5mm OVERFLOW PIPE (SEE FRAME 13)
1½ x ¾" REDUCING RUBBER BUSH
FIT TRAP SUPPLIED ENSURING SEALS ARE IN PLACE AND CONNECTIONS ARE TIGHT.
AIR DUCT
BOILER
vari9324

IMPORTANT: FOLLOWING INSTALLATION OF CONDENSATE DRAIN THE FOLLOWING CHECKS **MUST** BE PERFORMED:

(1.0) CAREFULLY POUR WATER DOWN THE FLUE AND CHECK WATER EFFECTIVELY DRAINS THROUGH THE CONDENSATE COLLECTOR AND TRAP SYSTEM AWAY TO WASTE.

(2.0) ENSURE TRAP IS PRIMED WITH WATER BEFORE FIRING BOILER.

(3.0) ON COMMISSIONING BOILER CAREFULLY CHECK ALL SEALS MADE ARE AIR AND WATER TIGHT WITH NO LEAKAGE.

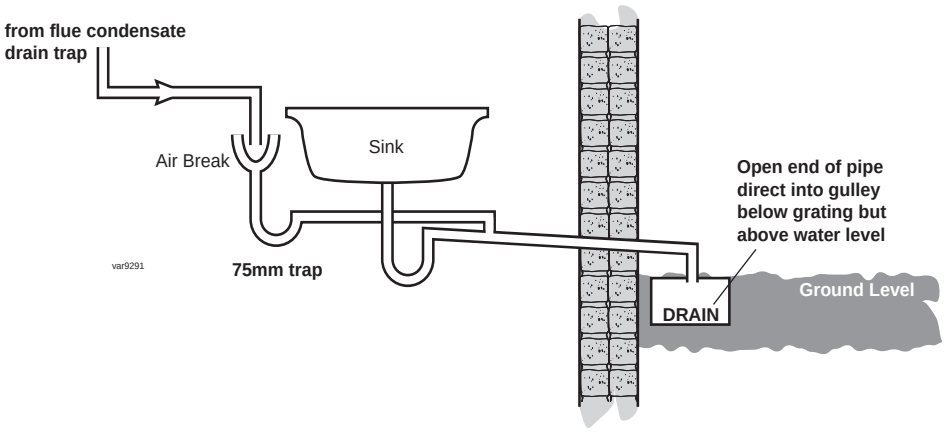
NOTES:

- ALL EXTERNAL PIPE RUNS **MUST** BE INSULATED.
- CUT 32mm PIPE SUPPLIED TO SUIT THE NEEDS OF THE INSTALLATION.
- ALL CONNECTING PIPEWORK **MUST** BE FULLY SUPPORTED.

13 CONDENSATE PIPE TERMINATION CONFIGURATIONS

Note. ***ALL EXTERNAL PIPE RUNS MUST BE INSULATED - MAXIMUM LENGTH 3M EXTERNAL***

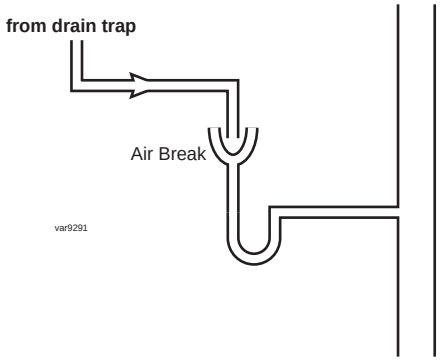
1. INTERNAL TO SINK WASTE DOWNSTREAM OF SINK WASTE TRAP (PREFERRED METHOD)



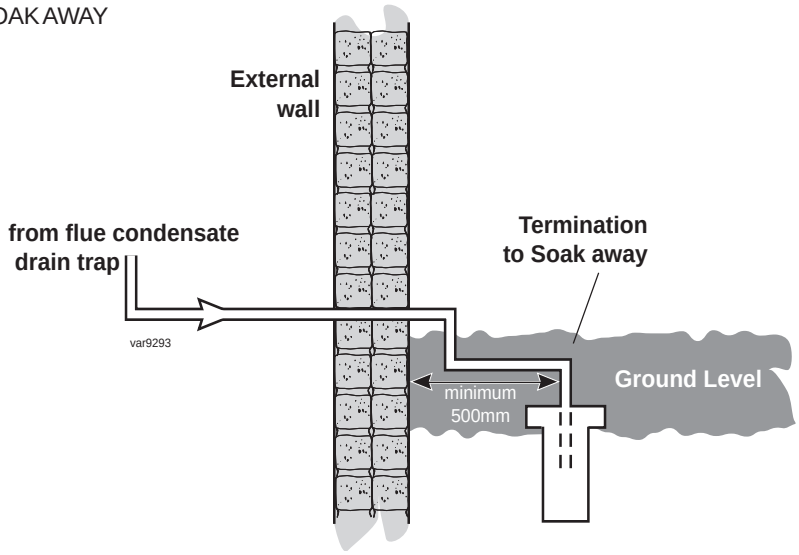
2. INTERNAL CONNECTION TO SOIL AND VENT STACK

Termination lists a down pipe can take place providing it can be confirmed that the down pipe is part of a combined waste and rain water system.

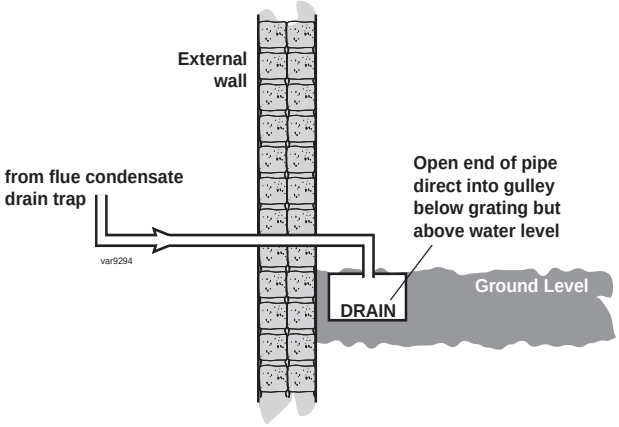
* Make connection to SVP using a solvent welded saddle



3. TERMINATION TO SOAK AWAY



4. TERMINATION TO DRAIN/GULLEY


External wall
from flue condensate drain trap
Open end of pipe direct into gulley below grating but above water level
var9294
Ground Level
DRAIN

NOTES

NOTES

Ideal Boilers, P.O. Box 103, National Ave., Kingston upon Hull, HU5 4JN. Telephone: 01482 492 251 Fax: 01482 448 858. Registration No. London 322 137.

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